Mississippi Coastal Improvements Plan

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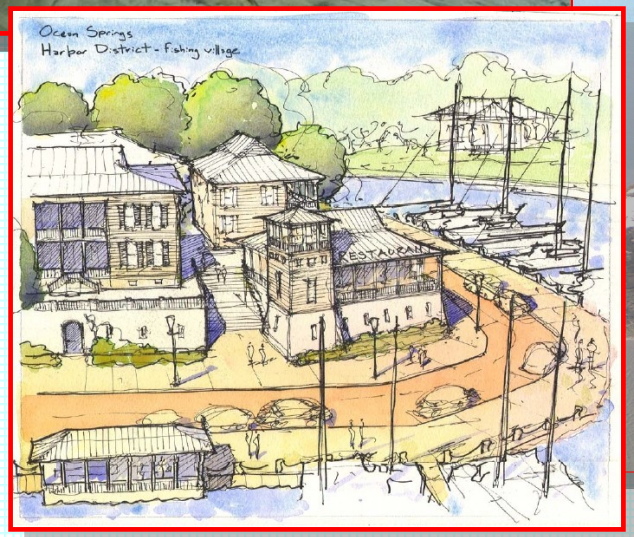
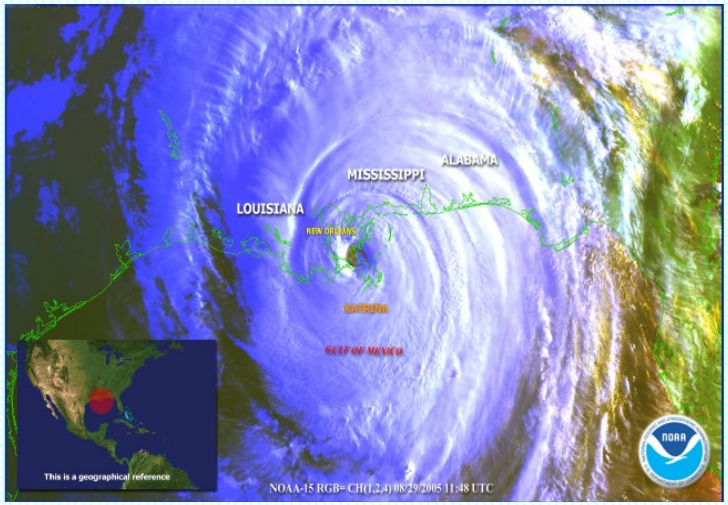


Discussion Topics

- Study Background
- Methodology
- Interim Recommendations
- Comprehensive Improvements
- ITR and External Peer Review
- Summary

Study Background

Authority Language



Studies related to the consequences of the 2005 hurricanes

* All efforts fully coordinated with the

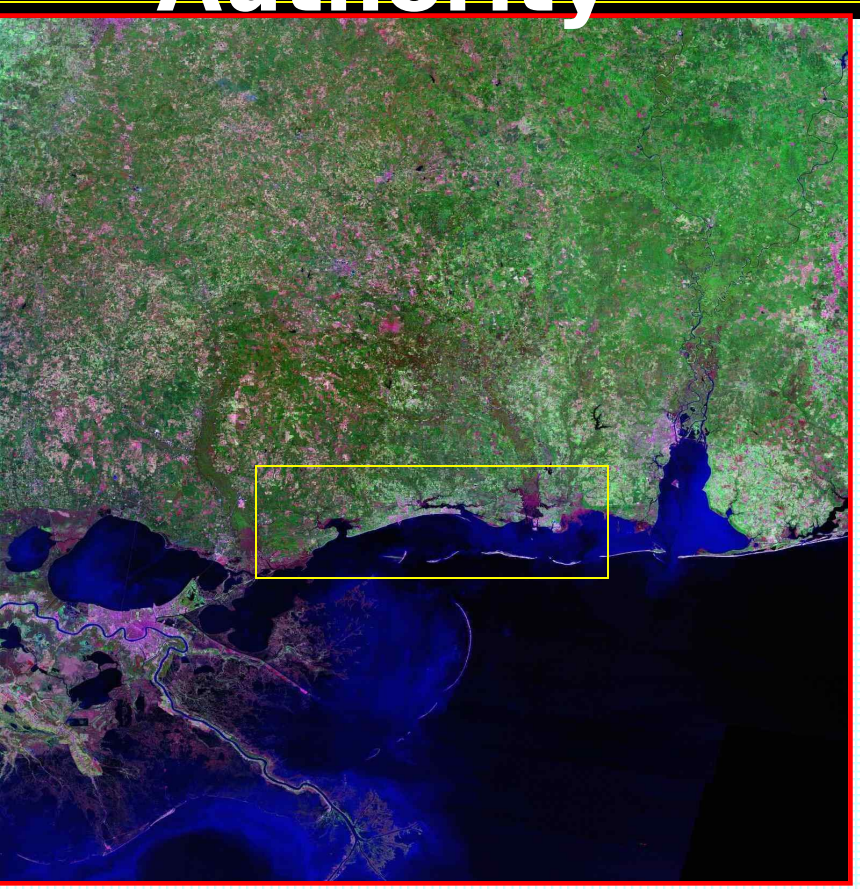
- $10 Million (GI funded) - DoD, Emergency Supplemental Appropriations
- Cost Effective Projects in lieu of NED
- No Incremental Benefit-Cost Analysis
- Hurricane and Storm Damage Reduction
- Salt Water Intrusion
- Shoreline Erosion
- Fish and Wildlife Preservation
- Other Water Related Resource Projects

Project Goals

The US Army Corps of Engineers was charged by Congress with developing recommendations for comprehensive improvements to coastal Mississippi for:

- Hurricane storm damage reduction
- Prevention of saltwater intrusion
- Preservation of fish & wildlife
- Prevention of erosion
- Other related water resource purposes

Congressional Authority



- **Interim Report (6 month Report)**
  - **Jun 30, 06** – Initial Report Submission to Congress
  - Recommend Near-Term Improvements
  - Analysis Framework for Comprehensive Improvements
- **Final Report (24 month Report)**
  - **Dec 30, 07** – Final Report Submission to Congress
  - Plan for Comprehensive Improvements
- Reports submitted through Headquarters, US Army Corps of Engineers to Assistant Secretary of the Army to Congress

Coastal Mississippi

Focus Area

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State's 7 Point Plan For Coastal Restoration

- Implementation of breakwater structures for surge protection.
- Deer Island restoration to pre-1900 footprint.
- Barrier island restoration to pre-Camille conditions
- Restoration of 10,000 acres of coastal marshes, beaches, and forests.
- Restoration of historical water flow to coastal watersheds, including diverting freshwater from LA.
- Submerged aquatic vegetation restoration.
- Oyster reef restoration and enhancement.

Ongoing Recovery Actions Post Katrina

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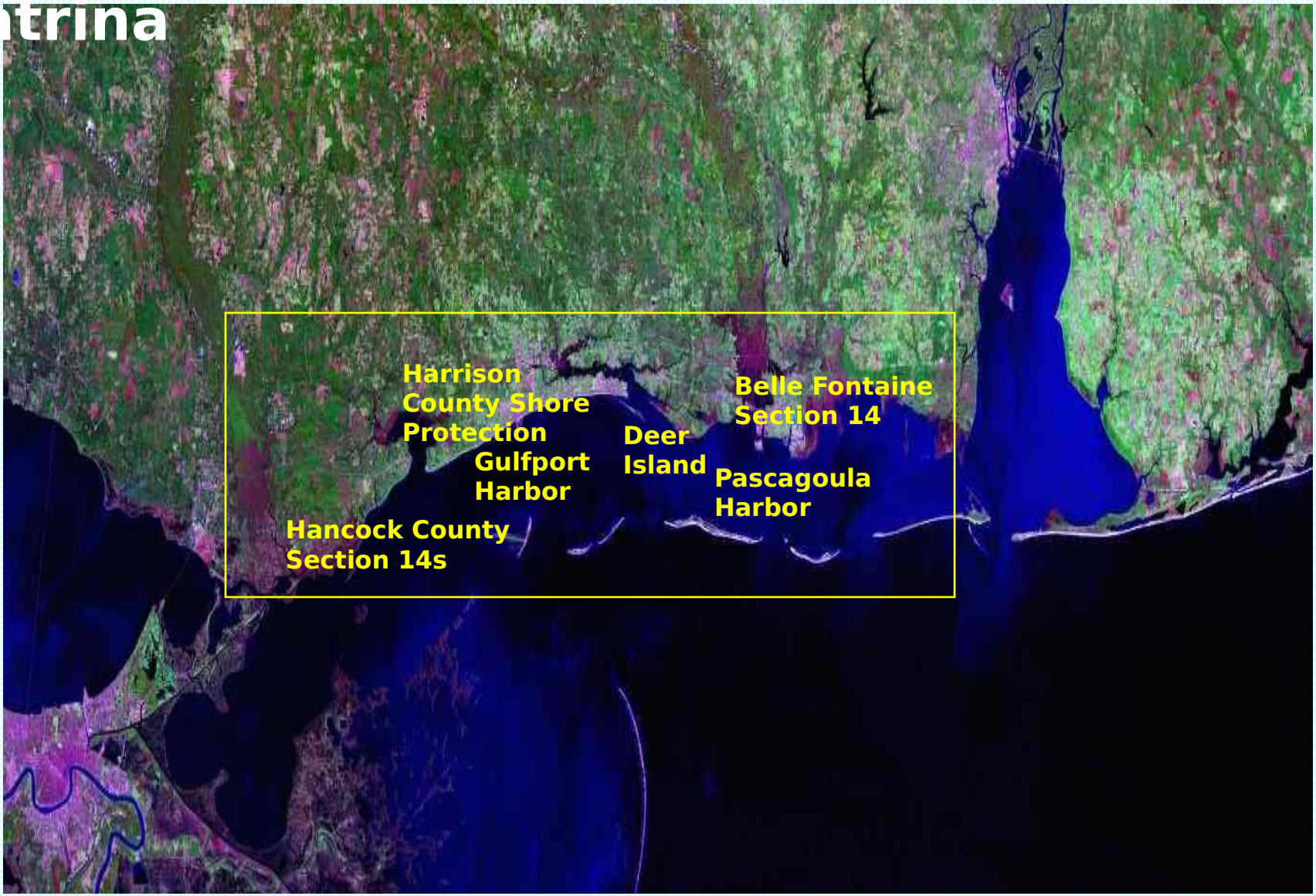

Methodology

A Collaborative Effort

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- **Public, Agency & Regional Involvement**
  - A multi-step process
  - Regional Coordination: Meetings with Federal, State and Local Partners
  - Multiple Public Workshops
  - Webcasts & Project Web Site

  http://mscip.usace.army.mil

- **Independent Technical Review and External Peer Review Teams**

Organizational Structure

Federal Principals Group
ASA(CW), USDA, USFWS, NOAA, EPA, USGS

Steering Committee
SAD/HQ/ASA/MS

Executive Management Group
SAM/SAD/MS

SAD Communities Of Practice

Regional Working Group
Key Resource Agencies

Federal / State Resource Agencies – USFWS, NPS, NMFS, EPA, MsDEQ/DMR, etc.

Project Delivery Team

Independent Technical / External Peer Review – North Atlantic Division

Local Officials

Public

Collaboration with LaCPR

- Establishment of ITR Team
- Establishment of Peer Review Team
- ADCIRC Storm Model
- Public Involvement
- Dialogue Among PDT Members
  - District
  - Division
  - HQ
- Concurrent Report Timelines

Regional and Public Workshops

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1st Regional Coordination Workshop

- ***Develop Project Principles***
- ***Generate Coastal Options***

April 7

2nd Regional Coordination Workshop

- ***Review Public Input***
- ***Provide Preferred Options***

April 26

Planning Team
- **Refine Input**
- **Assess Feasibility**
- **Develop Next Meeting**

1st Round Public Workshops
- ***Provide Overview, Options and Principles***
- ***Generate New Coastal Options***

April 10, 11, 13 (Workshops)
April 18 (Online)

2nd Round Public Workshops
Gather Comments on Proposed Options

May 1, 2, 4
May 3 (Online)

Interim Recommendations

Interim Report Due June 30, 2006

- Possible near-term recommendations:
  - Modification of existing protective structures
  - Mainland beach and dune system restoration
  - Wetland restoration & beneficial use of dredged material
  - Interior flood protection
- Discussion of the public interest and perceived need for stormwater management, stricter building codes, updated evacuation plans, etc.
- Detailed study framework for comprehensive plan - next 18 months including a communication strategy.
- Report submittal through HQ to Assistant Secretary of the Army to Congress.

Plan Evaluation Analyses Interim Report

- Selection criteria
  - Need as a result of 2005 hurricanes
  - Minimal adverse environmental concern
  - Public support
  - Non-controversial
  - Provides relief from future storm events
  - Simplicity of design (no modeling required)
  - Accommodate on-going recovery actions (local, State, Federal)
- Benefits – System of Accounts
  - Risk and Consequences
  - Economic, Regional, Social Effects, Environmental Quality accounts
- Cost effectiveness – Best method to achieve benefits
- Environmental Assessment
- Engineering Design and Cost Estimate
- Independent Technical Review/External Peer Review

Overview of Draft Interim Recommendations

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Over **180** problem areas identified to date. Anticipate **15** will be recommended for interim improvements.

By Category:

7 Hurricane Storm Damage Reduction Projects

4 Flood Damage Reduction Projects

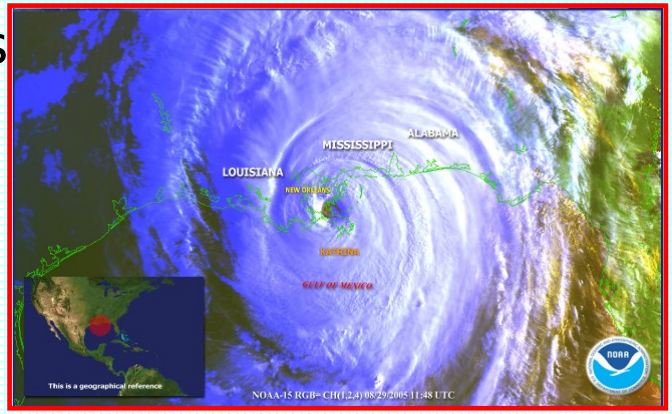
4 Ecosystem Restoration Projects

By County:

7 Hancock County

3 Harrison County

5 Jackson County



Interim Actions

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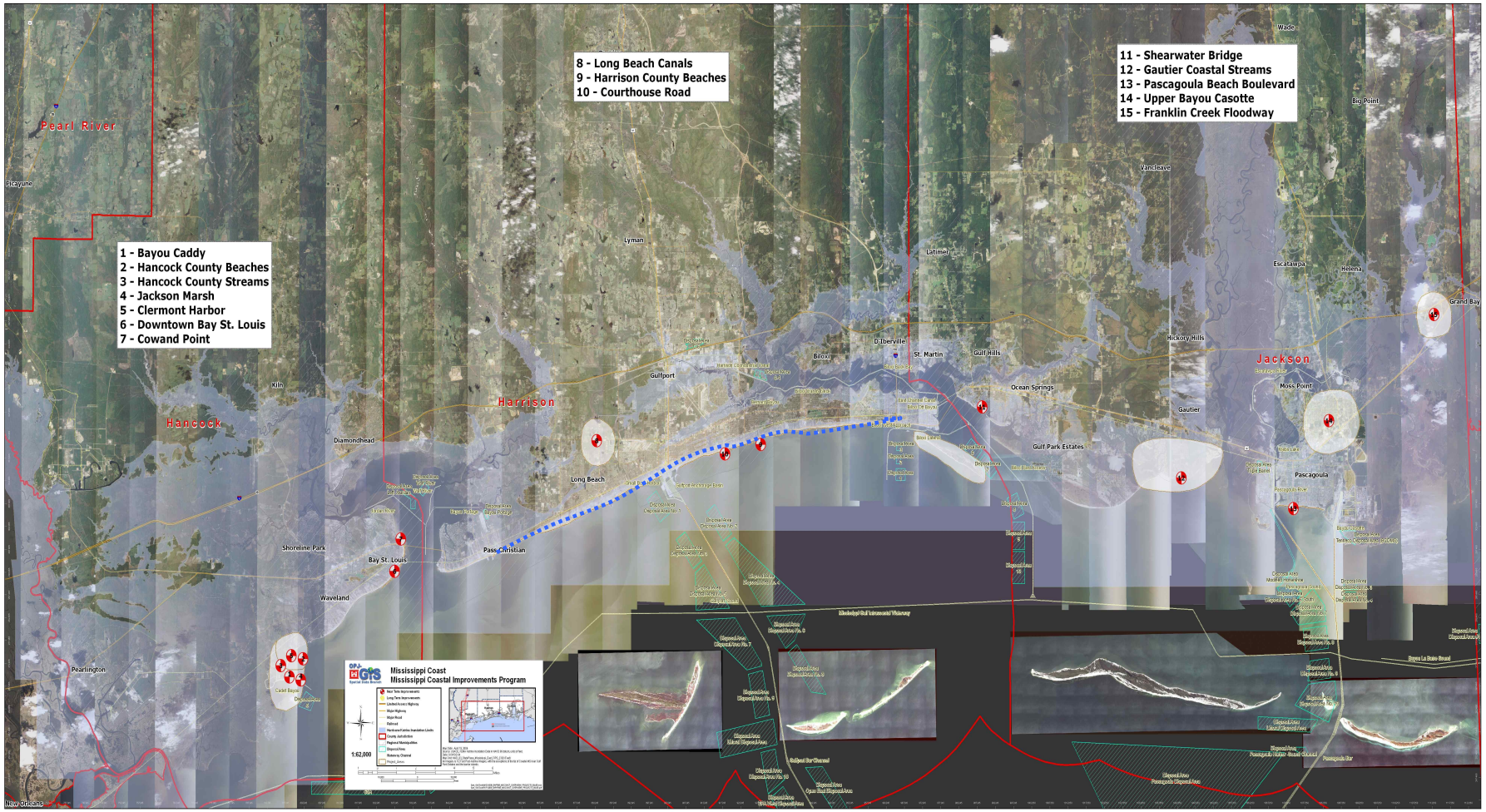

Hurricane and Storm Damage Reduction Projects

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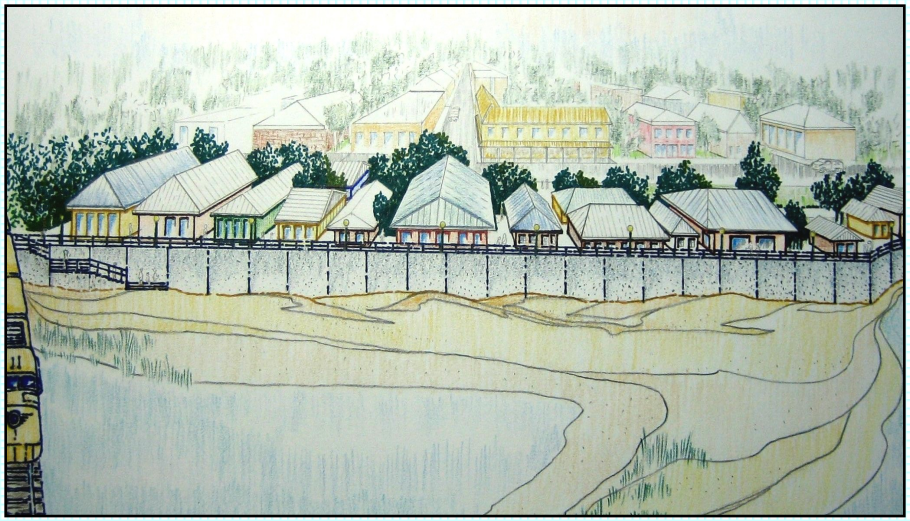
Downtown Bay St. Louis



Potential Improvement

Flood Damage Reduction Projects

Hancock County Streams

Upper Bayou Casotte

Ecosystem Restoration Project

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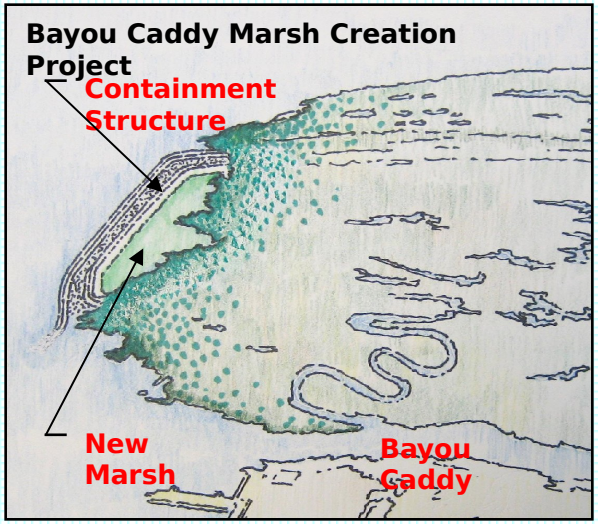
Bayou Caddy



Potential Improvement

Comprehensive Improvements

Comprehensive Improvements

- The Authorization provides for design and analysis of comprehensive improvements.
- A variety of improvements are possible.
- Their scale may be large or small.
- Different measures provide different levels of protection. Multiple measures will be required.
- Measures providing multiple benefits are preferred.

Hurricane Storm Surge

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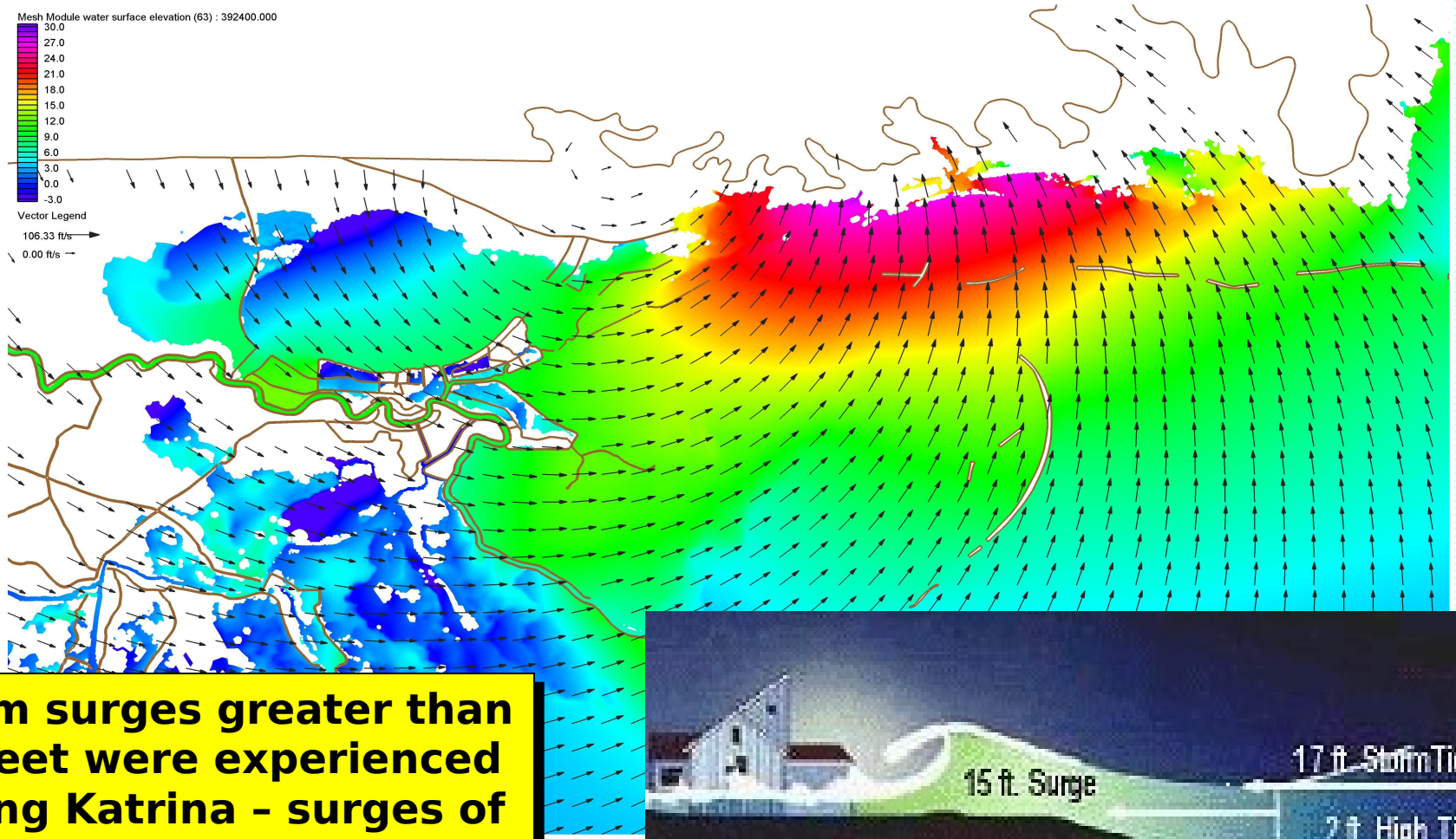

Storm surges greater than 25-feet were experienced during Katrina – surges of nearly 40-feet are possible for an extreme hurricane.

Storm Surge Frequency Analysis 1882-2005

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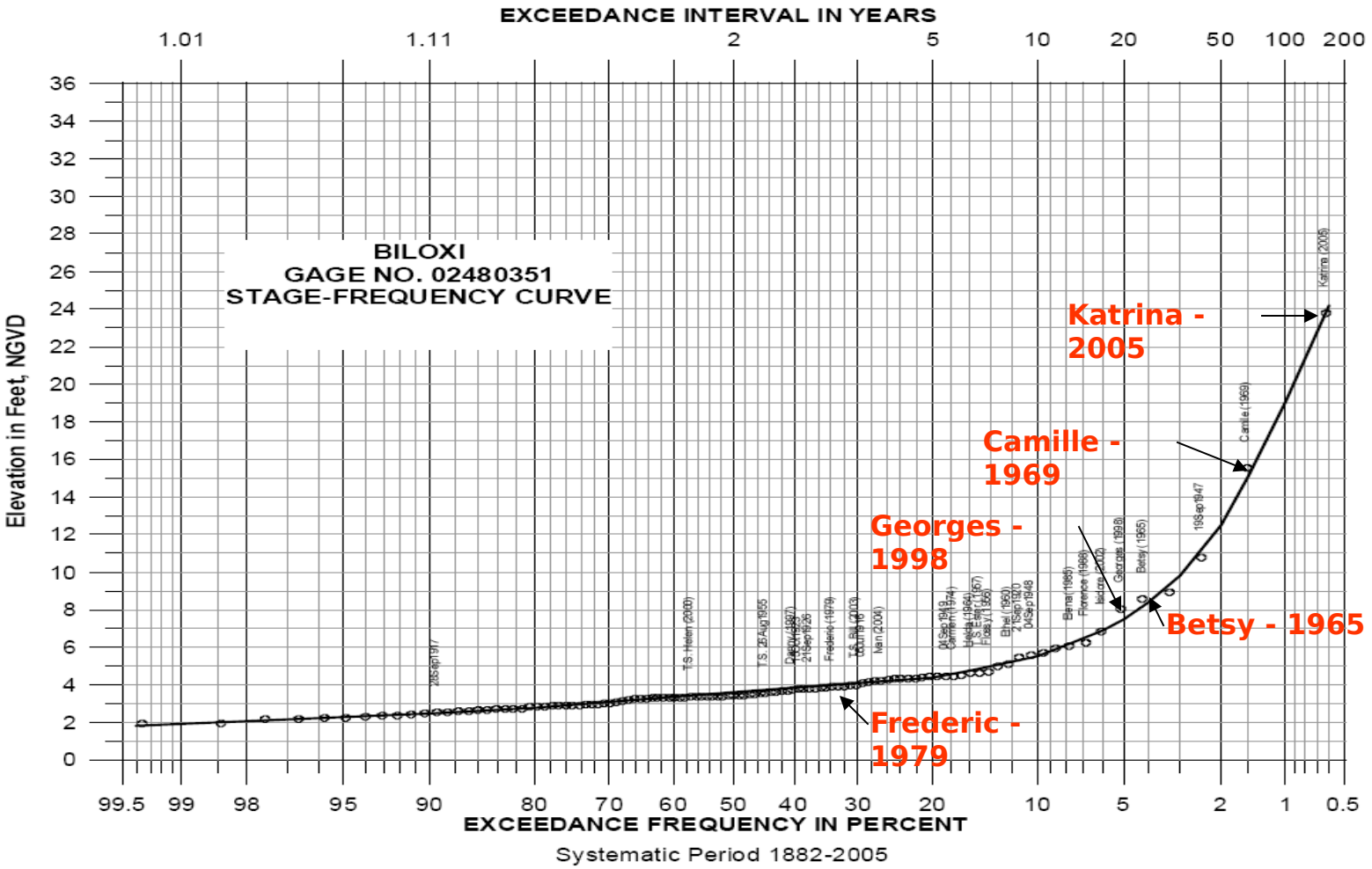

Concept of Integrated "Lines of Protection"

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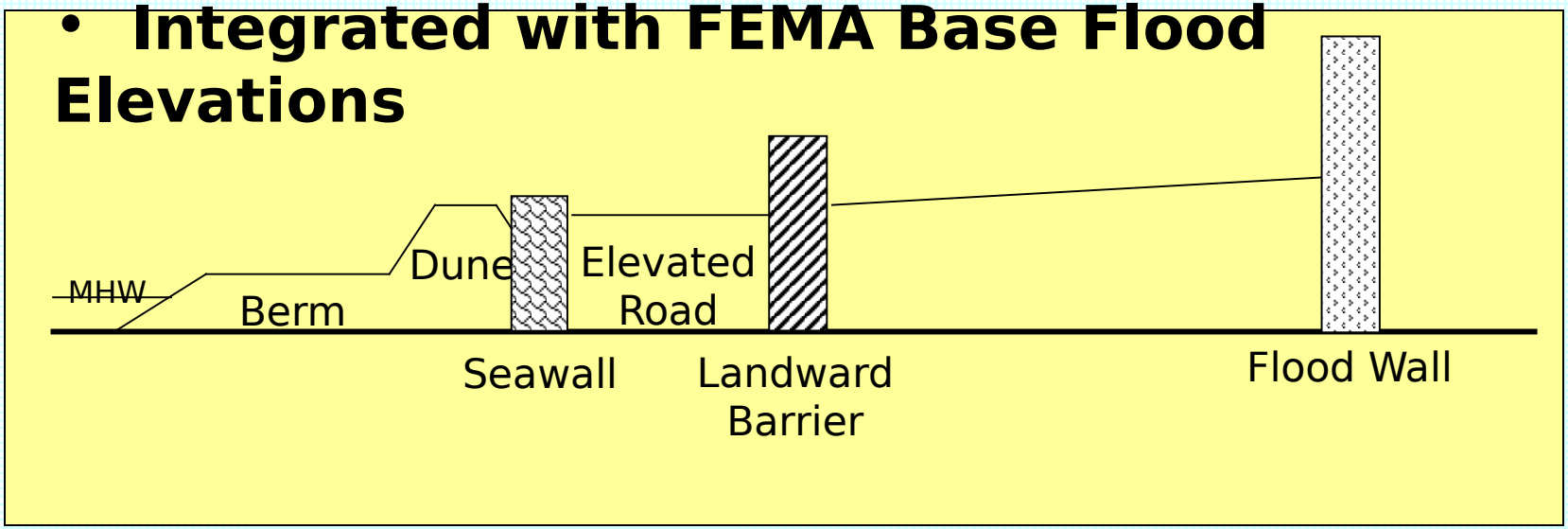
- **Multiple lines – combination of natural and structural features**
- **Increasing levels of protection from off-shore to in-shore**
- **Integrated with re-building plan**
- **Integrated with FEMA Base Flood Elevations**



Barrier Islands

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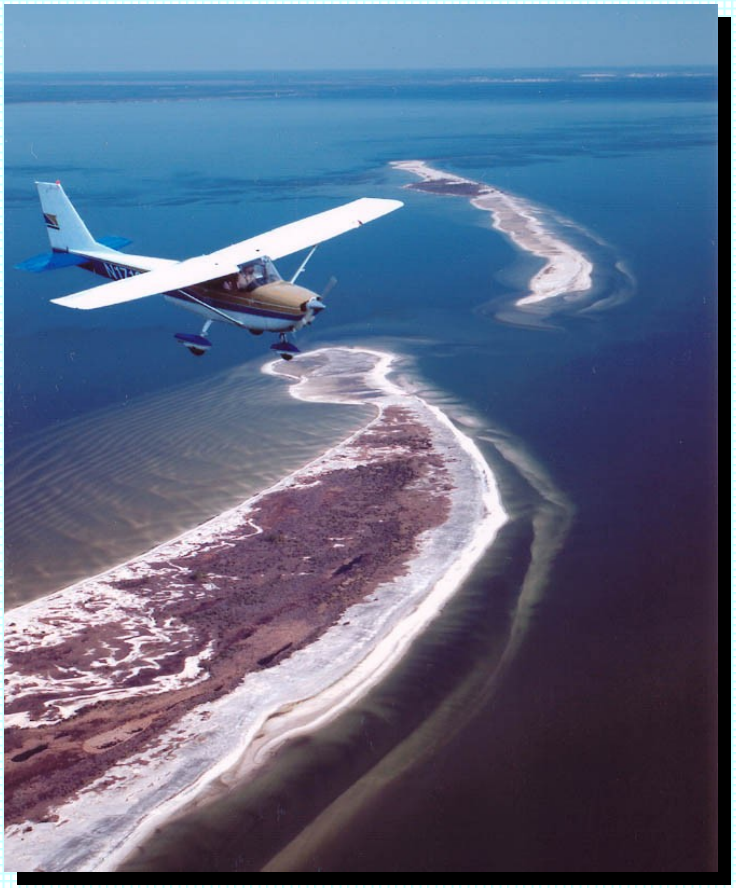

Protect main coast line from damaging waves

Low-Medium Surge Reduction

Offshore Breakwaters

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Low Surge Reduction

Reduce waves and coastal erosion

Wetlands/Marshes

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Low Surge Reduction

Environmental benefits as well as coastal erosion protection

Beach & Dune Systems

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Medium Surge Reductio n

Addition of dunes provides higher levels of protection from storm surge and coastal erosion to existing beaches

Sea Walls

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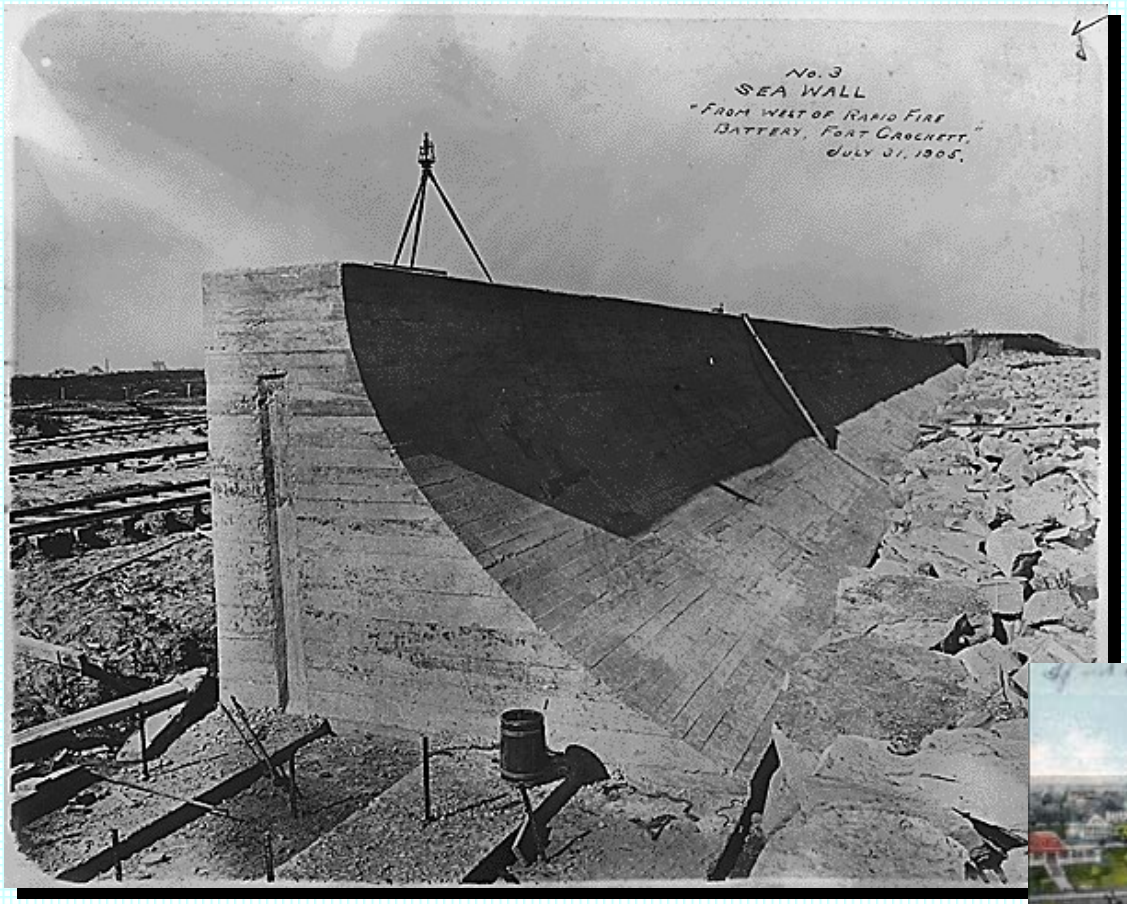

High Surge Reduction

Protect developed areas from storm surges

Surge Barriers

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Closed during storms to prevent storm surge from entering coastal inlets and bays

High Surge Reduction

Surge Barriers

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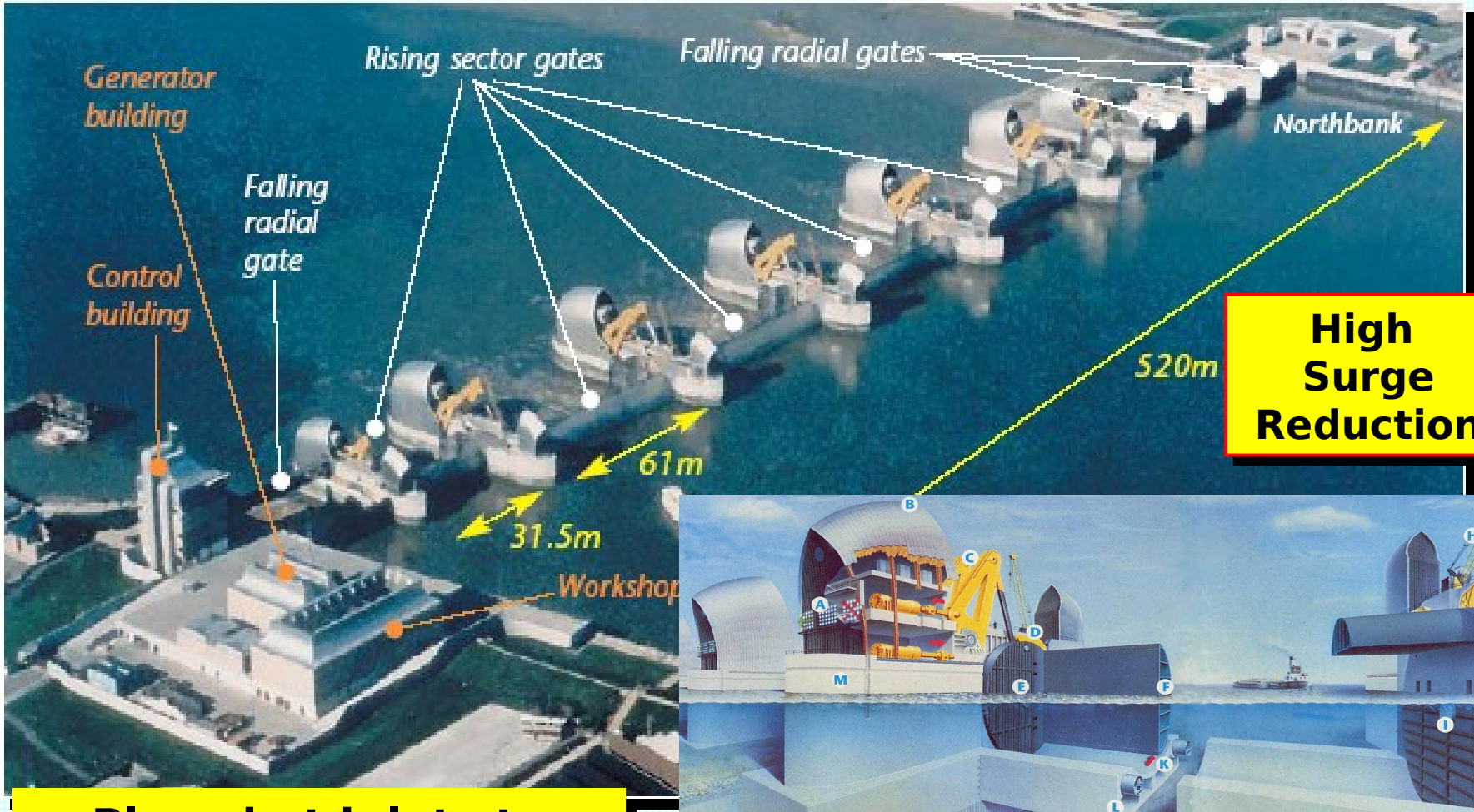
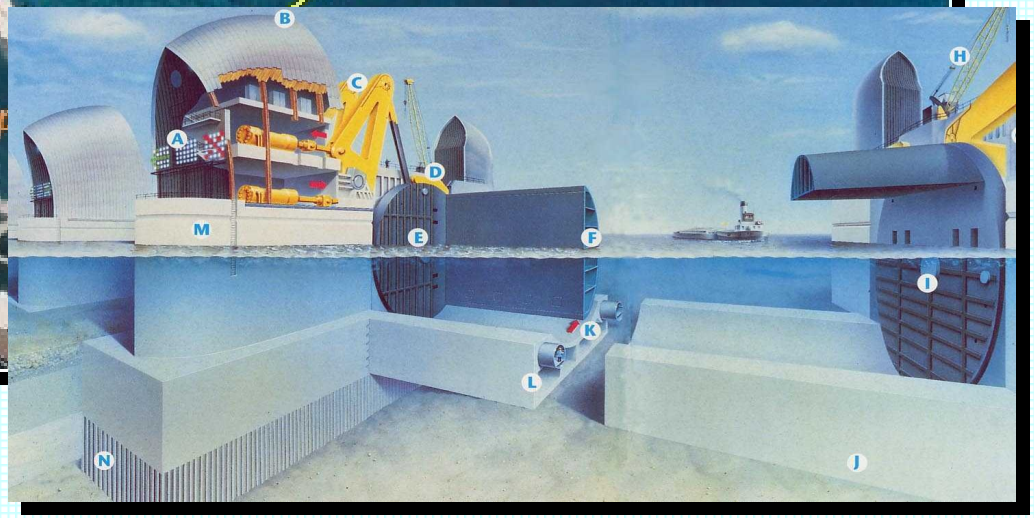


High Surge Reduction



Placed at inlets to protect “back bay” areas

Levees

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High Surge Reduction

Block storm surges from moving inland

Independent Technical Review and External Peer Review

- Independent Technical Review
  - Conducted by NAD – Center of Expertise for Hurricane and Storm Damage Reduction
  - Philadelphia District has lead
  - Review team supplemented with ERDC and other Corps Districts
  - Coordinated with Louisiana Coastal Protection and Restoration Project
- External Peer Review
  - Coordinated by NAD – Center of Expertise for Hurricane and Storm Damage Reduction
  - Baltimore District has lead
  - Contract with Technical Experts
  - Coordinated with Louisiana Coastal Protection and Restoration Project

Interim Report Schedule

April 7 - Regional Coordination workshop #1
April 10-13 - Public workshops
April 18 - Online public workshop
April 21 - IPR (MS, SAD, HQ, ITR, LaCPR, PDT)
April 26 - Regional Coordination Workshop #2
April 27 - Regional Federal Agency Meeting

May 1 - ITR (comments due 8 May)
May 1-4 - Public workshops round 2
May 9 - Briefs to ASA and OMB
May 15 – Congressional Briefs
May 19 - Interim Report submittal to SAD
May 19 -Start EPR and NEPA 30 day review
May 31 - SAD submits report to HQ

June 20 – EPR & NEPA comments to SAD/HQ
June 26 - HQ submits Interim Report to ASA
June 30 - ASA transmits Report to Congress

April

3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

May

1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30	31		

June

			1	2
5	6	7	8	9
12	13	14	15	16
19	20	21	22	23
26	27	28	29	30

Summary

- **Unique opportunity for Mississippi and the Corps**
- **Opportunity to implement near term projects to help in immediate recovery actions – while developing comprehensive plan**
- **High level of regional and public participation**
- **On track with interim report**